

In the Claims

Please amend claims 1, 3, 4, 6, 8 and 9 as shown below. Please cancel claim 2.
Please add new claims 10-14. A marked version of the amended claims is submitted as Exhibit B, attached hereto, pursuant to 37 C.F.R. §1.121(c).

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1. (Amended) A method for preparing a monovinylaromatic polymer material, comprising:
introducing a monovinylaromatic monomer feed stream into a polymerization reactor;
introducing an elastomer feed stream into said polymerization reactor;
introducing a polymerization initiator compound into said reactor, said initiator compound comprising at least one perketal and at least one peroxycarbonate in an amount of from about 150 ppm to about 800 ppm by weight; and
reacting said monomer, said initiator compound, and elastomer to form an elastomer-modified monovinylaromatic polymer having an elastomeric component of less than 28% by weight of polymer and that has toughness retained of at least 30%.

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3. (Amended) The method of claim 1 wherein said perketal comprises ethyl-3,3-di (t-butyl peroxy)-butyrate and said peroxycarbonate comprises t-Amyl 2-Ethylhexyl peroxycarbonate.

4. (Amended) The method of claim 3 wherein said peroxycarbonate is added in amounts of from about 400 PPM to about 800 PPM by weight.

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6. (Amended) The method of claim 5, wherein said chain transfer agent is a mercaptan.

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8. (Amended) A process for producing high impact polystyrene comprising:
introducing a styrene monomer feed stream into a polymerization reactor;

introducing an elastomer feedstream in an amount of from 5 to 15% by weight into said reactor along with said styrene monomer feed;

A9 introducing an initiator compound into said reactor, said compound comprising at least one perketal initiator and at least one peroxy-carbonate initiator in an amount of from 150 ppm to about 800 ppm by weight; and

reacting said feedstreams and initiator compound to produce impact resistant polystyrene.

9. (Amended) The process of claim 8 wherein said perketal is ethyl-3,3-di (t-butyl peroxy)-butyrate, and said peroxycarbonate is TAEC.

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A10 10. (New) An elastomer-modified monovinylaromatic polymer prepared in accordance with the method of claim 1.

11. (New) A high impact polystyrene prepared in accordance with the method of claim 8.

12. (New) The process of claim 1, wherein the monovinylaromatic monomer is styrene.

13. (New) The process of claim 8 wherein the impact resistant polystyrene has a gel content of greater than about 10% by weight.

14. (New) The process of claim 8 wherein the impact resistant polystyrene has a grafting level of greater than 130.
